

WHAT IS CLAIMED IS:

1                   1. A method for determining the time of transmission of a message packet  
2 from a network device including a plurality of transmit queues, said method comprising the  
3 steps of:  
4                   disabling a selected transmit queue to flush all packets from the selected  
5 transmit queue;  
6                   placing the message packet in the selected transmit queue;  
7                   disabling all other transmit queues;  
8                   waiting a selected time interval sufficiently long for all other transmit queues  
9 to be flushed;  
10                  transmitting the message packet from the selected transmit queue; and  
11                  measuring time of transmission of the message packet from the selected  
12 transmit queue.

1                   2. The method of claim 1 where the steps of transmitting and measuring  
2 further comprise:  
3                   reading and saving a base time of a local clock and a first timer value of a  
4 timer residing on the network device;  
5                   reading a second timer value of the timer and transmitting the message packet;  
6 and  
7                   calculating the time of transmission from the base time and first and second  
8 timer values.

1                   3. The method of claim 1 where the message packet is a SYNC message  
2 utilized in the PTP.

1                   4. The method of claim 1 further comprising the step of:  
2 sending a follow up packet including the time of transmission of the message  
3 packet.

1                   5. A system for determining the time of transmission of a message packet  
2 from a network device including a plurality of transmit queues, said system comprising:  
3                   means for disabling a selected transmit queue to flush all packets from the  
4 selected transmit queue;

5 means for placing the message packet in the selected transmit queue;  
6 means for disabling all other transmit queues;  
7 means for waiting a selected time interval sufficiently long for all other  
8 transmit queues to be flushed;  
9 means for transmitting the message packet from the selected transmit queue;  
10 and  
11 means for measuring time of transmission of the message packet from the  
12 selected transmit queue.

1 6. The system of claim 5 where the means for transmitting and measuring  
2 further comprise:

3 means for reading and saving a base time of a local clock and a first timer  
4 value of a timer residing on the network device; and

5 means for reading a second timer value of the timer and transmitting the  
6 message packet: and

7 means for calculating the time of transmission from the base time and first and  
8 second timer values.

1 7. The system of claim 5 where the message packet is a SYNC message  
2 utilized in the PTP.

1 8. The system of claim 5 further comprising:

2 means for sending a follow up packet including the time of transmission of the  
3 message packet.

1 9. A computer program product executed by a processor for determining the  
2 time of transmission of a message packet from a network device including a plurality of  
3 transmit queues, said computer program product comprising:

4 a computer usable medium having computer readable program code physically  
5 embodied therein, said computer program product further comprising:

6 computer readable program code executed by the processor for disabling a  
7 selected transmit queue to flush all packets from the selected transmit queue;

8 computer readable program code executed by the processor for placing the  
9 message packet in the selected transmit queue;

10 computer readable program code executed by the processor for disabling all  
11 other transmit queues;  
12 computer readable program code executed by the processor for waiting a  
13 selected time interval sufficiently long for all other transmit queues to be flushed;  
14 computer readable program code executed by the processor for transmitting  
15 the message packet from the selected transmit queue; and  
16 computer readable program code executed by the processor for measuring  
17 time of transmission of the message packet from the selected transmit queue.

1 10. The computer program product of claim 9 where the computer readable  
2 program code executed by the processor for transmitting and measuring further comprises:  
3 computer readable program code executed by the processor for reading and  
4 saving a base time of a local clock and a first timer value of a timer residing on the network  
5 device;  
6 computer readable program code executed by the processor for reading a  
7 second timer value of the timer and transmitting the message packet; and  
8 computer readable program code executed by the processor for calculating the  
9 time of transmission from the base time and first and second timer values.

1 11. The computer program product of claim 9 where the message packet is a  
2 SYNC message utilized in the PTP.

1 12. The computer program product of claim 9 further comprising:  
2 computer readable program code executed by the processor for sending a  
3 follow up packet including the time of transmission of the message packet.